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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,478	11/12/2002	Andrew Jonathan Turberfield	177-386	2939

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EXAMINER	
MENON, KRISHNAN S	

ART UNIT	PAPER NUMBER
1723	

DATE MAILED: 02/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/088,478	TURBERFIELD ET AL.	
	Examiner	Art Unit	
	Krishnan S Menon	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16,20 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16,20 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-16, 20 and 21 are pending after the amendment of 8/3/04

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-4, 7-12, 14-16 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Rijn (US 5,753,014).

Claim 1: Van Rijn teaches a method of fabricating a porous filter element (figures, abstract) comprising exposing a photosensitive material to an interference pattern of electromagnetic radiation (col 11 line 52 – col 12 line 38) and then treating the exposed material for selective removal of regions col 5 lines 4-67) to make the membrane; the membrane is from the photosensitive material (col 3 lines 12-15)

Claims 2-4: interference pattern by interfering beams, intensity or angle for the pattern; laser – col 12 lines 12-20

Claim 7: region extend in a straight line from first to the second side – see figures

Claims 8 and 9: removing regions having exposure below or above the predetermined level – see photolithography in col 5 lines 35-45. See also col 5 lines 4-18 wherein the removal of the material by high exposure evaporation is taught as undesirable.

Claims 10 and 11: constant or varying cross-section – see col 2 lines 59-60.

Claim 12: pattern repeats through depth and extend through the material – see figures.

Claim 14: material in the form of thin film – col 1 lines 57-65

Claims 15 and 16: plurality of different regions; in layers – col 3 lines 45-60, col 12 lines 39-50

Claim 21: Van Rijn teaches a porous filter element by the method of claim 1. Also please note that this is a product by process claim – "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re *Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 5,6 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Rijn'014 in view of Ehrsam et al (US 4,801,379).

Van Rijn teaches a method of fabricating a porous filter element (figures, abstract) comprising exposing a photosensitive material to an interference pattern of electromagnetic radiation (col 11 line 52 – col 12 line 38) and then treating the exposed material for selective removal of regions col 5 lines 4-67) to make the membrane; the membrane is from the photosensitive material (col 3 lines 12-15) as in claim 1. Claims 5 and 6 add the further limitations of the generating the interference pattern using three beams, and the wave and polarization vectors, which Van Rijn does not teach. Ehrsam et al (US 4,801,379) teaches using three beams in a process for making membranes using photolithography: see col 3 lines 58-62. It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Ehrsam in the teaching of Van Rijn because Van Rijn does not teach the details of the interference pattern. Re the Claim 6 which adds the further limitation of wave vectors and polarization vectors, Van Rijn in view of Ehrsam do not teach. However, they are result-effective variables that can be optimized for the interference pattern. Discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. In re Boesch and Slaney, 205 USPQ 215 (CCPA 1980); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Aller, 42 CCPA 824, 220 F.2d 454, 105 USPQ 233 (1955).

Claim 20: exposure time and intensity of the radiation is set in accordance with desired size of the regions – see Ehrsam col 4 lines 18-29. It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Ehrsam in the teaching of Van Rijn because Van Rijn does not teach the details of the interference pattern.

2. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Rijn'014 in view of Gelorme et al (US 4,882,245).

Van Rijn teaches all the limitations of claim 1. Claim 13 adds the further limitation of the material as an epoxy and a photoacid generator. Van Rijn does not teach the photosensitive material used other than saying that it is a paint or lacquer. Gelorme teaches an epoxy and a photoacid generator for a photoresist composition Col 4 lines 3-61). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Gelorme in the teaching of Van Rijn because Van Rijn does not teach any specific details of the photoresist material.

Response to Arguments

Applicant's arguments with respect to instant claim have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Krishnan Menon
Patent Examiner

W. L. WALKER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER